RP RESPONSE

EPA REVIEW OF THE
SUPPLEMENTAL SITE CHARACTERIZATION WORK PLAN
FOR OPERABLE UNIT 2: CELL BUILDING AREA SURFACE
SOIL DATED MARCH 2021
LCP CHEMICALS SITE
BRUNSWICK, GEORGIA

GENERAL COMMENTS

1. *It is unclear if the areas of concern at the site are those with less than one foot of soil cover or less than two feet of soil cover. Section 1.0 (Introduction) states, "there is a small portion that had less than two feet such that additional characterization would be performed of surface soil," which appears to indicate that areas with less than two feet of cover are of concern. However, Section 3.1 (Proposed Work Scope) states that the proposed sample locations "are positioned along the perimeter of the CBA [Cell Building Area] risk evaluation area where the soil cover thickness is computed at less than 1 foot," appearing to indicate that only areas where soil cover is less than one foot are of concern. Revise the Work Plan to clarify if the areas of concern at the site are those with less than one foot of cover or less than two feet of cover and explain how the proposed scope of work is sufficient to meet project objectives.*

RP Response

Reference to the portion of the CBA with less that two feet of cover soil was simply to focus the proposed sampling to locations providing greater likelihood of encountering native soil (as opposed to clean imported cover fill) in the surface soil horizon of 0-2 feet. However, after further discussion with EPA, the Work Plan has been revised to increase sample density and provide better coverage in the area with less than two feet of cover. Sample locations have been shifted and two locations added, as shown in Figure 1.

2. *The Work Plan does not provide sufficient justification for the sampling of the periphery of the site only. Areas with less than one foot of cover appear to be located in the interior of the site as well as along the perimeter. This is of particular concern if the area of concern at the site is that with less than two feet of soil cover, given that areas throughout the site (periphery and interior) with less than two feet of cover are depicted on Figure 1 (Proposed Surface Soil Sample Locations). Revise the Work Plan to further justify why sampling of the interior of the site is not warranted.*

RP Response

Sample locations have been shifted and two locations added, as shown in Figure 1.

3. *The Work Plan does not reference an approved Quality Assurance Project Plan (QAPP). Further, the information presented in the Work Plan does not meet the specifications of the EPA Requirements for Quality Assurance Project Plans, March 2001 (EPA QA/R-5). Examples of information that is not sufficient to meet QA/R-5 requirements include, but are not limited to, the following:*

    a. *The Work Plan does not provide laboratory-specific information including, but not limited to, laboratory standard operating procedures (SOPs), method detection limits, and quality control acceptance limits.*
    b. *Project-specific data quality objectives (DQOs) are not presented. The DQOs should be presented in a format consistent with EPA's Guidance on Systematic Planning Using the Data Quality*

Objectives Process (EPA QA/G-4).

c. *The sampling design and rationale for the number, type, and locations of soil samples has not been provided. The rationale should indicate why the chosen sampling design is sufficient to meet the project goals.*
d. *It is unclear if all of the data will be validated, or if only a portion of the data will be validated. The amount of data that will be validated, as well as data validation checklists and the criteria for accepting, rejecting, or qualifying data (e.g., data validation checklist) should be provided.*
e. *A document management discussion should specify all of the information that will be included in the project report. Further, the specific length of time that project documents will be held should be provided. Data reduction discussions should indicate how project personnel will ensure that all data were entered correctly into databases, calculations were completed correctly, and validation qualifiers are applied correctly so that data limitations are clear to potential data users.*

Revise the Work Plan to either reference an approved QAPP or provide a QAPP that covers the sampling activities discussed in the Work Plan.

RP Response

The original QAPP for the CBA (dated August 21, 2018; approved August 27, 2018) has been amended to address the work scope. To aid in EPA's review of the amended QAPP, sections of the original QAPP that were previously approved and did not require update are shaded gray.

4. *The Work Plan does not provide the risk-based screening criteria to which laboratory analytical results will be compared. It is unclear how the objectives of the Work Plan can be met until these criteria have been defined. Revise the Work Plan to specify the risk-based screening criteria that will be used for screening the laboratory analytical results. If these values have already been established and presented under separate cover, clarify in the Work Plan where this information can be found.*

RP Response

Please refer to the Amended QAPP where residential Regional Screening Levels (RSLs) have been included along with the laboratory detection limits.

5. *Review of the Work Plan indicates that it lacks SOPs to support the field tasks described in the Work Plan. Applicable SOPs may include, but are not limited to, soil sampling procedures, equipment decontamination procedures, investigative-derived waste management procedures, chain-of-custody and sample handling procedures, and/or field documentation procedures. Revise the Work Plan to include applicable SOPs in an appendix to ensure appropriate implementation of all procedures by the field team.*

RP Response

A Supplemental Field Sampling Plan (SFSP) has been created to address the comment.

6. *The Work Plan does not include a discussion of which potentially affected populations will be evaluated in the human health baseline risk assessment (HHBRA). The type, number, location, and depth of the samples to be collected is predicated on the human receptors to be analyzed in the risk assessment. For a baseline risk assessment, as per EPA's Risk Assessment Guidance for Superfund, Volume 1, Part A (1989), sample depth should be applicable for the exposure pathways and contaminant transport routes of concern and should be chosen purposely within that depth interval. For example, future construction workers and/or excavation workers may be exposed to soil greater than two feet below ground surface,*

which is the deepest proposed sampling depth for the site. Thus, information about the receptors to be analyzed in the HHBRA is critical to informing the soil sampling plan. Based on Section 1.0 (Introduction) of the Work Plan, it is understood that discussions between the responsible parties and EPA have already occurred to develop the Exposure Assessment for the HHBRA; a summary of these discussions as they relate to soil sampling should be included in this Work Plan. Revise the Work Plan to include information on the pathways and receptors of interest to be evaluated in the HHBRA, discussing how the location, number, and depth of samples will fulfill the requirements of the risk assessment.

RP Response

This information is included in the Revised HHBRA Technical Memorandum (dated March 23, 2021), which was approved by the EPA in a letter dated June 4, 2021.

7. *The method by which soil samples will be aggregated to derive an exposure point concentration (EPC) is not elaborated. Page 3 of the Work Plan states that the sampling design involves ten locations equidistant along the northern, eastern, and southern margins of the CBA soil cover. However, it is not apparent from the Work Plan how these data will be combined. For example, samples could be combined into a single EPC, representing a single exposure unit, or an EPC could be derived from each location to enable a comparison of each part of the site. Revise the Work Plan to indicate how data will be aggregated in the development of EPCs, such that the sample count can be evaluated to ensure it is sufficient for the conduct of the HHBRA.*

RP Response

This information is included in the Revised HHBRA Technical Memorandum, which was approved by the EPA in a letter dated June 4, 2021.

8. *Provide the approved Quality Assurance Project Plan (QAPP) that this work will be performed under either in Section 1 or Section 3.2. This approved QAPP, presumably from 2018, should be updated for the associated work with the additional sampling. At a minimum Laboratory-Specific Detection/Quantitation Limits and the Quality Assurance Manual should be updated.*

RP Response

Section 3.2 now references the Amended QAPP.

9. *Reference the Health and Safety Plan that this work will be performed under in Section 1.*

RP Response

Section 1 will reference the HASP for the CBA.

10. *Provide the current surface results and their depths at current ground surface within the CBA (where native soils exist in the upper 2 feet) in a table and a figure in Section 2.*

RP Response

This information was provided in the recently approved HHBRA Technical Memorandum.

11. *In Figure 1, add sample points in the northwestern section and the southwest corner where the soil cover is less than 2 feet, or explain why there are no sample points in those areas.*

RP Response

These locations have been added.

SPECIFIC COMMENTS

1. ***Section 2.0, Overview of the Work Performed to Date in the CBA, Page 2:*** *It is unclear if and how the historical data presented in Section 2.0 informed the development of the scope of work outlined in Section 3.1 (Proposed Work Scope), as this is not discussed. If the historical data were used in the development of the current scope of work, presentation of additional detail in Section 2.0 is warranted, including concentrations of contaminants historically detected, supporting figures with historical data, and a discussion of the findings and conclusions of each historical investigation. Revise Section 2.0 to clarify if and how the historical data were used in the development of the current scope of work and provide the requested detail if applicable.*

RP Response

Additional detail will be provided in Section 2.

2. ***Section 3.1, Proposed Work Scope, Page 3:*** *The procedures for collecting soil samples are insufficiently detailed. For example, it is unclear if soil samples for volatile organic compound (VOC) analysis will be collected using EnCore or TerraCore samplers, as this is not specified. While it is recognized that a soil sampling SOP is referenced, for completeness, the procedures should also be summarized in the text of the Work Plan. Revise this section to provide a summary of the soil sampling procedures that will be employed at the site.*

RP Response

The document will reference the Supplemental Field Sampling Plan.

3. ***Section 3.1, Proposed Work Scope, Page 3:*** *This section does not discuss how soil sampling and associated equipment will be decontaminated, if necessary. It is noted that use of disposable equipment for sampling is preferable. Revise Section 3.1 to discuss how soil sampling and associated equipment will be decontaminated to minimize the potential for cross-contamination and to ensure proper implementation of the Work Plan by the field team.*

RP Response

This information is provided in the Supplemental Field Sampling Plan.

4. ***Section 3.1, Proposed Work Scope, Page 3:*** *This section does not discuss include investigation-derived waste (IDW) management procedures; therefore, it is unclear how IDW will be managed. Revise Section 3.1 to specify IDW management procedures with sufficient detail to allow proper implementation of the Work Plan by the field team.*

RP Response

This information is provided in the Supplemental Field Sampling Plan.

5. ***Section 3.2, Quality Assurance/Quality Control, Page 3:*** *This section states that quality assurance/quality control samples will be collected to allow for evaluation of data quality, but the Work Plan does not indicate that a data usability or data assessment report will be prepared. Revise Work*

Plan to clarify if a data usability or data assessment report will be prepared, describe what will be included in the report, and explain how data usability will impact conclusions and recommendations.

RP Response

A Stage 3 validation of all laboratory data will be performed by Validata as described in the QAPP and Section 3.2.

6. ***Figure 1, Proposed Surface Soil Sample Locations:*** *It is difficult to interpret where the soil cover is less than one foot or two feet thick due to the similarity in the color grades shown in the legend. For example, it is difficult to identify the locations where the soil cover is 1.75 to two feet thick versus two to 2.25 feet thick, as the colors that signify these thicknesses are nearly identical. To address this, it is recommended that the figure be revised to use greater variation in color for each range of cover thickness. Alternatively, revise the figure to draw an outline around the areas where the soil cover is less than one foot thick, less than two feet thick, etc.*

RP Response

The figure has been revised to include contour lines to better depict the soil thickness.

7. ***Figure 1, Proposed Surface Soil Sample Locations****: For completeness purposes, revise Figure 1 to identify the locations of the footprints of the former site buildings.*

RP Response

The footprints of the former building have been added.

Comments Provided by Georgia Environmental Protection Division (EPD)

The Georgia Environmental Protection Division (EPD) has reviewed the referenced document, submitted electronically March 03, 2021, and makes the following comments:

1) Section 3.1: Proposed Work Scope

a) In the EPA Region 4 March 8, 2021 letter providing comments on the OU2 BRA Memo, EPA Region 4 General Comment #4 requested the Responsible Party (RP) "to submit a work plan to be considered for the surface soil sampling in the general area [of] the CBA focused in areas where the soil cover is less than 24" in thickness, as appropriate". Based on Figure No. 1 in the Workplan, the RP has only proposed collecting soil samples in areas with the lowest estimated soil cover thickness (yellow-colored zones on Figure No. 1) and did not broadly focus sampling efforts in other areas of the Cell Building Area (CBA) where soil cover is less than 24" thick (e.g. light-pink colored zones on Figure No. 1). Given that all proposed samples are located within the perimeter of the CBA and that the western perimeter is not being sampled, it is not clear how these samples are representative of the CBA. Please provide justification for only sampling at these locations as well as for the number of samples being proposed.

RP Response

See responses to earlier EPA comments regarding the number of samples.

b) *The footnote associated with this Section indicates that soil cover thickness was estimated using light detection and ranging (LiDAR) data. Since none of the metadata associated with the LiDAR dataset is provided with the Workplan, the accuracy of the soil cover thickness estimates cannot be ascertained. Please provide all metadata associated with the LiDAR dataset in a separate appendix and in the text provide additional explanation on how the LiDAR data was collected and analyzed, as well as the QA/QC procedures used to ensure that the data is reliable. It is recommended that the United States Geological Survey publication Lidar Base Specification be consulted for more information.*

RP Response

The LIDAR shape files were purchased from the Glynn County GIS department and are widely used by numerous parties for matters across Glynn County. We do not have metadata for the LiDAR.

c) *In the OU2 BRA Memo, both EPA and EPD indicated that leachability to groundwater from subsurface soil be considered. However, the RP did not propose any subsurface soil sampling. Please provide an explanation and justification into why subsurface soil samples are not being collected as well as how the soil-to-groundwater pathway will be considered as it pertains to the CBA.*

RP Response

The data gap as determined by the EPA was limited to surface soil and direct-contact exposure to this condition.

d) *The Section cites an older version of the EPA Region 4 "Soil Sampling Operating Procedure". Please revise the text by citing and following the most current Operating Procedure, which is designated LSASDPROC-300-R4.*

RP Response

This change has been made.

e) *The analytical method that is proposed for analyzing Mercury (1631B) has been developed by EPA's Office of Science and Technology for determining Mercury in filtered and unfiltered water samples. Since the scope of the [Workplan] is soil sampling at the CBA, it is unclear why this analytical method is being proposed for analyzing Mercury instead of an SW-846 method. Please either provide justification for using this method (along with documentation explaining how Method 1631B was modified for analyzing soil samples and whether the modified method has undergone both intra- and interlaboratory method validation) or utilize SW-846 Method 7471 for analyzing Mercury in soil samples collected at the CBA.*

RP Response

Method 1631B is a specialized method for trace-level quantification of mercury in soil and is superior to Method 7471, and has been utilized for previous soil testing on the site and moreover, under previously-approved QAPP (April 2018, CBA and OU2).

2) Section 3.2: Quality Assurance/Quality Control

a) The Section states "*Blind duplicates and MS/MSDs will be analyzed at a frequency of 5% consistent with Sections 3.3.3 and 3.6 of Field Sampling Quality Control (SESDPROC-011-R5) (EPA, 2017), respectively*". Please note that according to Section 3.3.3 of EPA Region 4's "Field Sampling Quality Control Operating Procedure" [SESDPROC-011-R5], the 5% frequency applies to "split samples" which are analyzed to "assess sample handling variability". Section 3.6 of [SESDPROC-011-R5] states that "One MS/MSD sample should be collected per 20 samples per media collected". Though [SESDPROC- 011-R5] does not prescribe a specific number of blind duplicates to collect, a minimum of 1 blind duplicate per 10 samples should be collected. Please revise this section by removing the previous statement and replacing it with the following: "One MS/MSD sample and one blind duplicate will be collected per 10 soil samples."

RP Response

This change has been made.